



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®2006 = 44.0

Intel DH67BL Motherboard (Intel Pentium G870)

SPECfp_base2006 = 43.1

CPU2006 license: 13

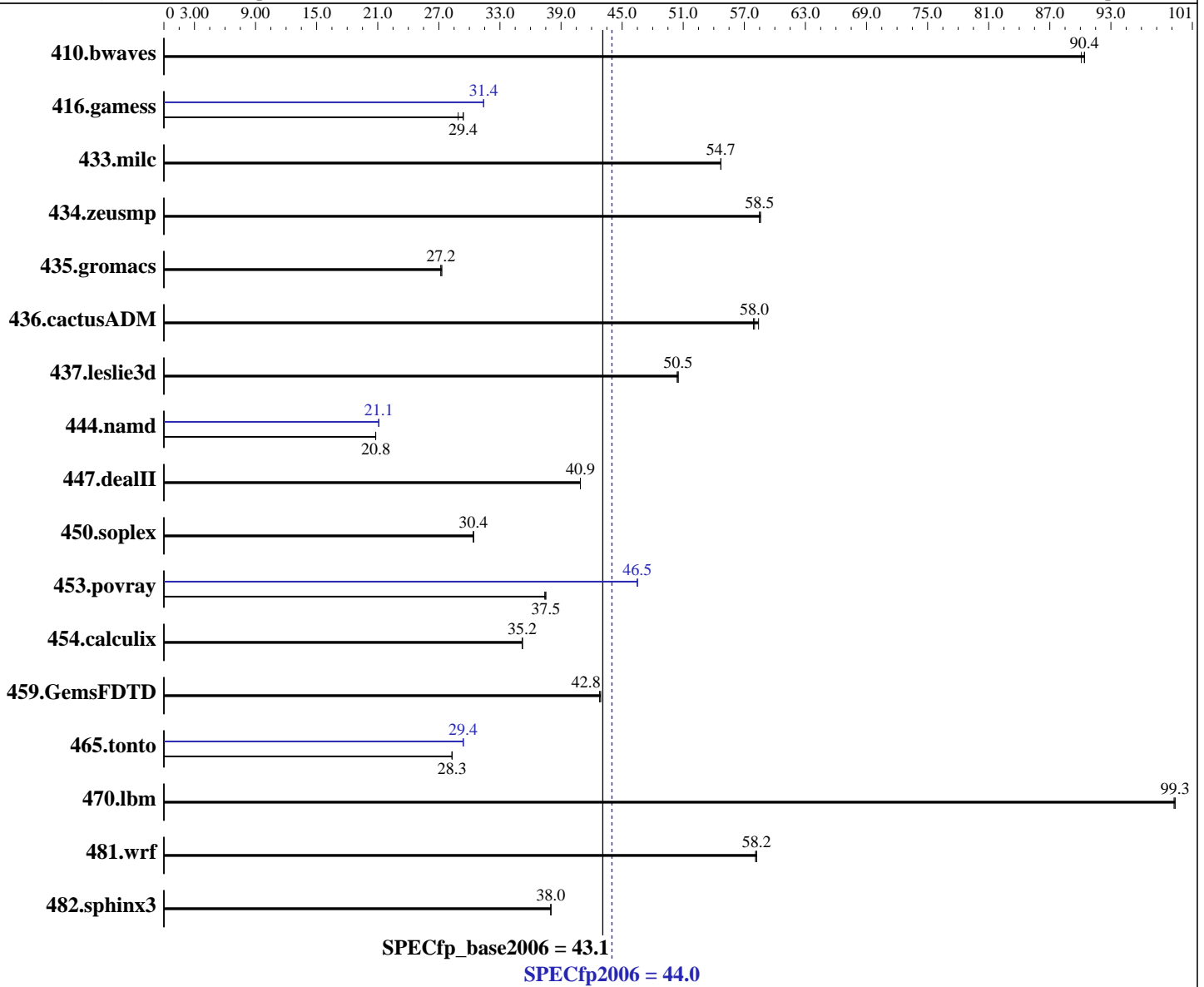
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Sep-2012

Hardware Availability: Jun-2012

Software Availability: Apr-2011



Hardware

CPU Name: Intel Pentium G870
 CPU Characteristics:
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: Microsoft Windows 7 Ultimate
 6.1.7601 Service Pack 1 Build 7601
 Compiler: C/C++: Version 12.1.0.229 of Intel C++ Studio XE for Windows;
 Fortran: Version 12.1.0.229 of Intel Fortran Studio XE for Windows;
 Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
 Auto Parallel: Yes

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L3 Cache: 3 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-9)
 Disk Subsystem: 1 TB Seagate SATA, 7200 RPM
 Other Hardware: None

File System: NTFS
 System State: Default
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap Library Version 9.01 from <http://www.microquill.com/>

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	151	90.1	150	90.4	150	90.4	151	90.1	150	90.4	150	90.4
416.gamess	678	28.9	665	29.4	665	29.4	623	31.4	623	31.4	623	31.4
433.milc	168	54.7	168	54.7	168	54.7	168	54.7	168	54.7	168	54.7
434.zeusmp	155	58.6	156	58.5	156	58.5	155	58.6	156	58.5	156	58.5
435.gromacs	262	27.3	262	27.2	263	27.2	262	27.3	262	27.2	263	27.2
436.cactusADM	205	58.4	206	57.9	206	58.0	205	58.4	206	57.9	206	58.0
437.leslie3d	187	50.4	186	50.5	186	50.5	187	50.4	186	50.5	186	50.5
444.namd	387	20.8	387	20.8	387	20.8	380	21.1	380	21.1	380	21.1
447.dealII	280	40.9	280	40.9	280	40.9	280	40.9	280	40.9	280	40.9
450.soplex	274	30.4	274	30.4	274	30.4	274	30.4	274	30.4	274	30.4
453.povray	142	37.5	142	37.5	142	37.4	114	46.5	114	46.5	114	46.5
454.calculix	234	35.2	235	35.2	235	35.2	234	35.2	235	35.2	235	35.2
459.GemsFDTD	248	42.8	248	42.9	248	42.8	248	42.8	248	42.9	248	42.8
465.tonto	348	28.3	348	28.3	347	28.3	335	29.4	335	29.4	335	29.4
470.lbm	138	99.3	138	99.3	139	99.2	138	99.3	138	99.3	139	99.2
481.wrf	192	58.2	192	58.1	192	58.2	192	58.2	192	58.1	192	58.2
482.sphinx3	513	38.0	512	38.0	513	38.0	513	38.0	512	38.0	513	38.0

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Invocation Notes

ipsxe-comp-vars batch file invoked with intel64

Platform Notes

Sysinfo program C:\CPU200~1.17A/Docs/sysinfo
 \$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
 running on Clt386077E02EFB Sat Sep 15 00:05:12 2012

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

Trying 'systeminfo'

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Platform Notes (Continued)

OS Name : Microsoft Windows 7 Ultimate
 OS Version : 6.1.7601 Service Pack 1 Build 7601
 System Manufacturer: INTEL_
 System Model : DH67BL_
 Processor(s) : 1 Processor(s) Installed.
 [01]: Intel64 Family 6 Model 42 Stepping 7 GenuineIntel ~3100 Mhz
 BIOS Version : Intel Corp. BLH6710H.86A.0156.2012.0615.1908, 6/15/2012
 Total Physical Memory: 8,091 MB

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize  : 512
L3CacheSize  : 3072
MaxClockSpeed : 3100
Name          : Intel(R) Pentium(R) CPU G870 @ 3.10GHz
NumberOfCores : 2
NumberOfLogicalProcessors: 2
```

(End of data from sysinfo program)

Component Notes

Tested systems can be used with Shin-G ATX case, PC Power and Cooling 1200W power supply

General Notes

OMP_NUM_THREADS set to number of processors cores
 KMP_AFFINITY set to granularity=fine,scatter
 Binaries compiled on a system with 1x Intel Core i7-860 CPU
 + 8GB memory using Windows 7 Enterprise 64-bit

Base Compiler Invocation

C benchmarks:
 icl -Qvc9 -Qstd=c99

C++ benchmarks:
 icl -Qvc9

Fortran benchmarks:
 ifort

Benchmarks using both Fortran and C:
 icl -Qvc9 -Qstd=c99 ifort



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Base Portability Flags

```

410.bwaves: -DSPEC_CPU_P64 -names:lowercase
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
436.cactusADM: -DSPEC_CPU_P64 -names:lowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -names:lowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

```

Base Optimization Flags

C benchmarks:

```

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

```

C++ benchmarks:

```

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

```

Fortran benchmarks:

```

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

```

Benchmarks using both Fortran and C:

```

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

```

Peak Compiler Invocation

C benchmarks:

```

icl -Qvc9 -Qstd=c99

```

C++ benchmarks:

```

icl -Qvc9

```

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Peak Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc9 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000
sh1W64M.lib -link /FORCE:MULTIPLE

447.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias
-Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc
/F1000000000

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.20120117.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.20120117.xml>

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For other inquiries, please contact webmaster@spec.org.

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